Expression of genes involved in cell wall structural components in different genotypes of *Theobroma cacao*

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Resistant in this main way to control witches´ broom resistance, therefore the understanding of pathogen infection and its disease resistance mechanism is very important in order to obtain durable resistance. Through the technique of in situ hybridization, the current study aimed to determine the expression of genes involved in possible mechanisms of resistance of cacao and in which stages of the infection they are acting. Apical meristems of susceptible and resistant genotypes of *Theobroma cacao* to witches' broom disease were artificially inoculated by placing a drop with a 5x105 basidiospore/mL. Meristems were collected at intervals of 3, 6, 12, 24, 48 and 72 hours, 5 and 15 days after the inoculation day, under free RNAse. The samples were fixed and sent for analysis of gene expression by in Situ Hybridization. HRGP genes (Hidroxyproline-rich glycoprotein) and RGC2 related to cell wall metabolism or plant defense mechanism, were chosen from cDNA libraries available at UESC/CEPLAC/CEPEC. The analysis showed the localization in the in cells of the vascular system and in parenchymatous cells of the apical meristem in both resistant as well as susceptible genotype. However, no significant variation in the accumulation of HRGP and RGC2 genes were observed between genotypes. Thus, we suggest further investigation with earlier timein order to ascertain whether there is variation in the accumulation of such genes between the genotypes under study.